JULY 1953
Vol. 3 · No. 3

Our PUBLIC LANDS

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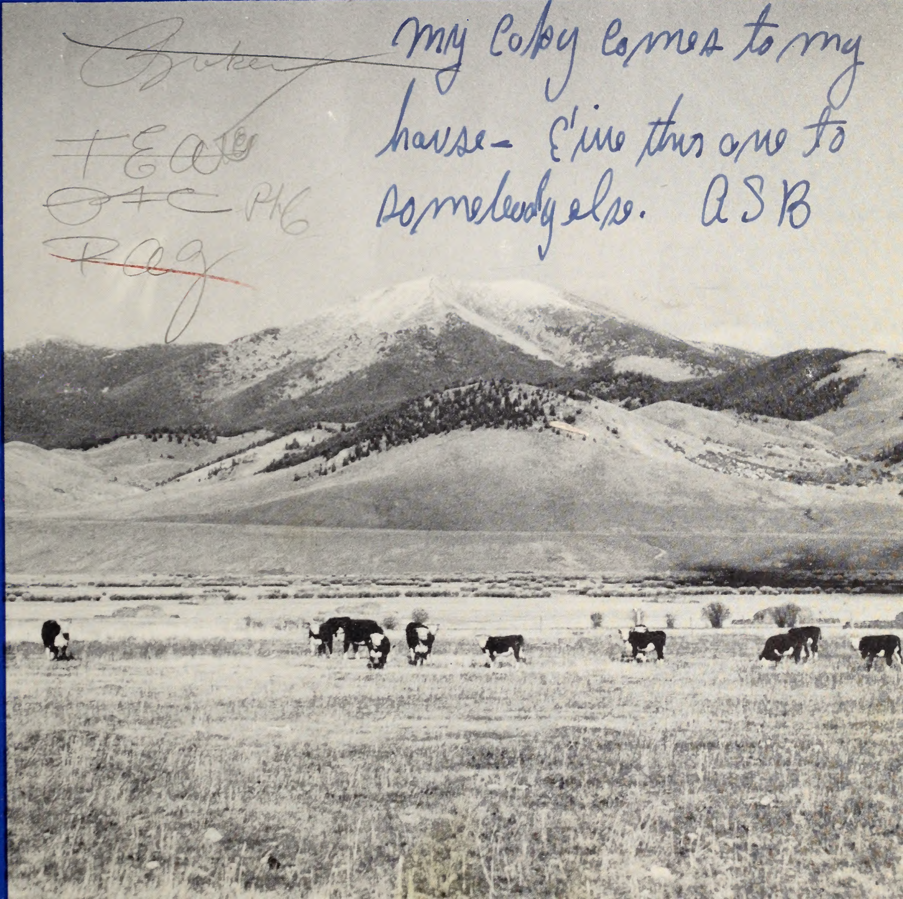

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JULY 1953 · Volume 3, Number 3

OUR PUBLIC LANDS . . .

500 million acres of land that belong to us and to our neighbors and to all the people of the United States . . . public lands that are rich in natural resources . . . timber, rangeland, water, minerals, and land for every use . . . "active acres" that must be carefully and wisely managed for the welfare of the Nation . . .

As a forum for the exchange of ideas and information on th[illegible] development, utilization, and conservation of the resources on public lands, this periodical contains no copyrighted material. If pictures or material are reprinted, a credit line should be given Our Public Lands *and the Bureau of Land Management.*

Carlos Whiting, *Editor.*

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DEPARTMENT OF THE INTERIOR
Douglas McKay, Secretary

BUREAU OF LAND MANAGEMENT
Edward Woozley, Administrator

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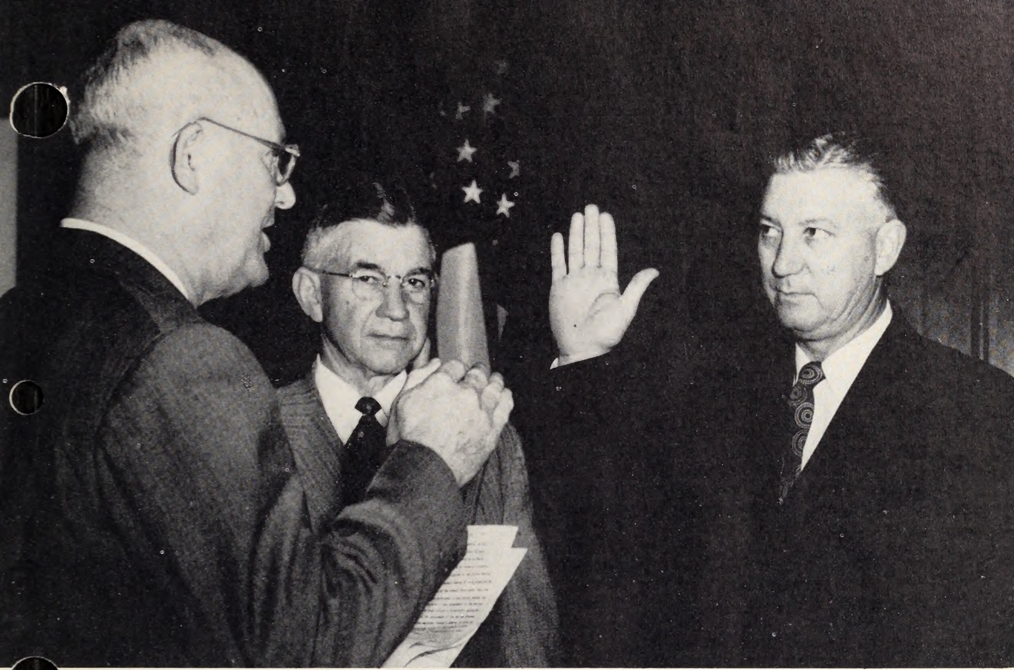
COVER

The varied resources of public lands—minerals, rangeland, forests, watershed, wildlife, recreation, and sites for homes and businesses—must be considered by the Bureau of Land Management in administering any tract or area. Typical of the multiple uses of a single region is the cover scene of Montana public lands.



EMONY. At a swearing-in ceremony May 1, Edward Woozley, new Administrator of the Bureau of Land Management, stands by Secretary of the Interior Douglas McKay and takes the oath of office from Chief Clerk Floyd Dotson.

RESPONSIBILITIES IN LAND MANAGEMENT

by **EDWARD WOOZLEY**, *Administrator*

As Administrator of the Bureau of Land Management, I look forward to the realization of a resource conservation program which will consider all phases of public land use in their proper proportions, whether it be Federal, State, or private use.

We have the responsibility to manage the public lands in the public interest and at the least pos-ble cost to the taxpayer.

We are not seeking to acquire more land. The acreages which we administer are a heritage the American people placed under this agency's jurisdiction by a succession of land laws. Over a period of years, the resources on these public lands have greatly increased in value. It is the Bureau's responsibility, and therefore mine, to administer these resources, providing for their orderly disposal for the highest use.

To achieve one of our basic goals—the best service to the people of the country at a reasonable cost—we must necessarily reexamine all aspects of our present land-management program. Each of our major activities is broad in scope with many

(Continued on page 12)

THE FAST AND EASY WAY . . .

FOREST INVENTORY

by THE DIVISION OF FORESTRY, Region I

Snow was 6 feet deep on the ridges. In the heads of draws, and on lee slopes near the summits, the drifts were 10 feet or more. Low, heavy clouds hung over the isolated forest ready to drop their burden and increase the depth of the snow blanket. Yet, at that same hour a hundred miles away, three foresters sat in a warm office inventorying the timber in the snow-choked area. This modern miracle was made possible by the use of aerial photographs.

A little more than a decade ago, foresters and timber cruisers would have considered this impossible. But they did not have the aerial photographs of today, nor the precise techniques of using them. They could only inventory the forest the hard, slow way—with calked boots in summer, snowshoes in winter.

The use of aerial photographs has increased immensely since World War II, but the concept is far from new. Even before the first airplane was flown, German foresters had published articles discussing the use of aerial photographs taken from balloons. The advances in airplane construction in the early 1920's made limited experimentation possible and in Canada, Burma, and Rhodesia, foresters photographed and sketched forest land from the sky. Progress in the United States was slow, however, until the middle 1930's when aerial mapmaking became highly developed. Photogrammetric techniques then improved so rapidly that at the outbreak of World War II the United States probably led the world in actual mapping from aerial photographs.

Despite the extensive use of aerial photography by cartographers in planimetric and topographic mapping, it was not until the war-caused manpower shortage of World War II that United States foresters sought assistance from the airplane in inventory work. Acceptance of the new technique was rapid, and since 1940 the use of aerial photographs as a forest-management tool has increased immeasurably.

A forester trained in photographic interpretation may examine a photograph taken from a plane flying at more than 2 miles above the forest canopy and from it describe and delineate species and general age classes of trees, forest stand conditions, terrain conditions, and water courses. Of vital importance in region I (Pacific Northwest), at the present time, is the detection of timber which has been attacked by insects and disease, or thrown by windstorms.

The immense value of aerial photographs can be readily appreciated when the new and the old techniques are contrasted. In the past the forester had to cruise and map the forest by the compass and pacing method. His view of [illegible] forest, of timber types, and of the topogra[illegible] was limited, generally, to a vista of perhaps [illegible] to 300 feet; he had to travel over difficult terrain and through dense undergrowth, and he had to maintain constantly his orientation and location. As a result inventorying was time-consuming, expensive and arduous.

Now, the forester using aerial photographs is no longer so concerned with his immediate location in regard to each section corner. His problem is only to keep his general location and orientation on the photograph. He is able to study, on the area covered by the photograph, the general pattern of forest types, drainages and land use f[illegible] miles around. All drainage, cultural and typ[illegible] mapping is done directly on the aerial photograph, and the resulting maps are much more accurate and detailed than their predecessors of a decade ago.

Timber inventory is the basis of forest management planning. Before the amount of forest to be cut is determined, the quantity of timber available and the ability of the soils to produce annual wood growth must be known. Work plans place the management units to be inventoried in order according to need. Aerial photographs are purchased from other Government agencies or private industry wherever photo coverage exists. If n[illegible] photographs are available, a contract is negotiat[illegible] to photograph the area from the air.

Recent large-scale photographs are nee[illegible]

Detail must be sharp and clear, and it is only by recognizing contrasting differences of the photographed forest canopy that the forester can quickly and accurately delineate the different types.

Management unit boundaries are drawn on the photographs as soon as they are received in the inventory office. They are then studied by foresters trained in photo interpretation.

After type classification on the photographs has been completed, time is spent in the field to check any doubtful or difficult forest-type classifications that were made in the office. The photographs are then returned to the office where a base map of fixed scale—showing the roads, drainage pattern and rectangular land survey lines—is constructed.

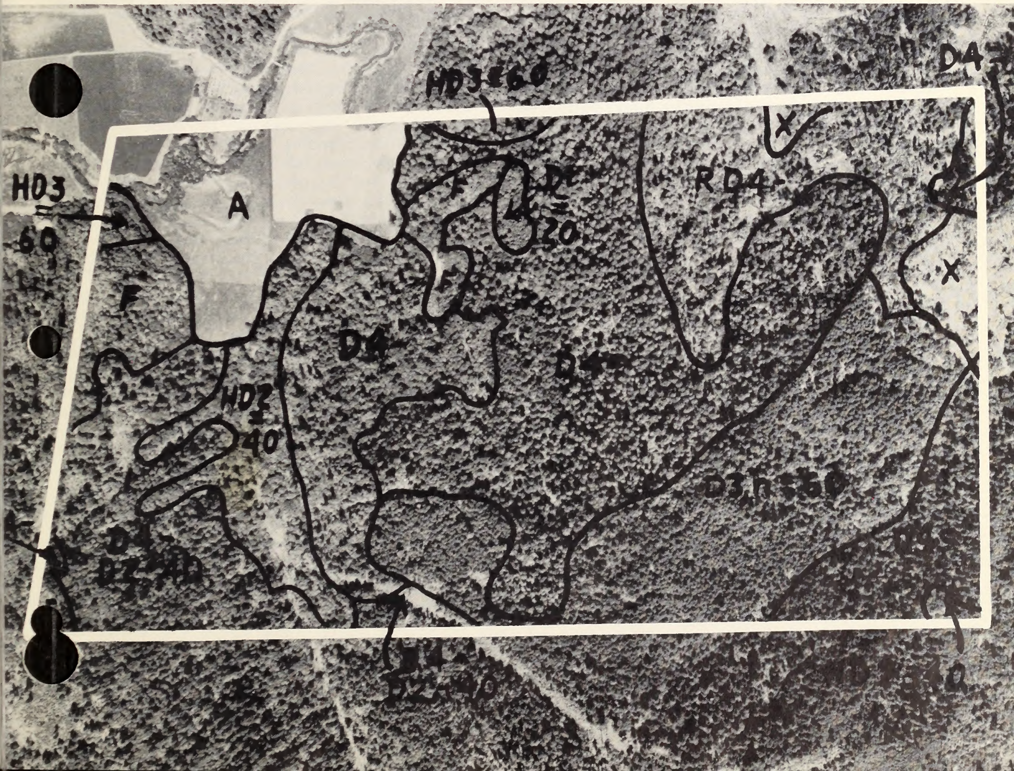
Because of the fluctuation in the height at which the plane flies and the variation in topography, aerial photographs may have slightly different scales or different parts of the same photograph may reflect more than one scale. Such variations are adjusted by coordinating each photograph with a fixed map scale. The lines which have been drawn on the photograph to separate forest types are then transferred from the aerial photograph to the base map.

The next step after the "type" map has been completed is to determine the existing volume of the standing timber on the management unit, and the annual growth that can normally be anticipated from the unit. As a result of increased utilization, present estimates of timber volume are higher than in the past; many trees and parts of trees, which only a few years ago would have been considered of no value, are now being utilized.

Before the employment of aerial techniques, the estimate was usually made by a forester sampling and measuring all trees on 5 to 10 acres in every

(Continued on page 13)

FOREST MAP. Aerial photos of timberland, with forest types delineated, serve as basis for the forest type map here superimposed on the photograph.



IN THE MISSOURI RIVER BASIN . . .

SURVEYS FOR RESOURCE DEVELOPMENT

by WILLIAM R. BANDY, ***Regional Chief,*** **Cadastral Engineering, Region III**

The orderly development of the natural resources of the Missouri River Basin is the major responsibility of several agencies. The soil and water resources of the area must be conserved and put to their best uses. The development of the oil and gas and other minerals is also a part of the program.

The Bureau of Land Management is cooperating with other governmental bureaus and agencies in this task, and the Bureau's Cadastral Engineering Division is performing an important function in this program by marking the land boundaries.

Adequate cadastral surveys are a prerequisite to any comprehensive land management or development program. Definite corner and boundary markers must be established before explorations for oil and such minerals can proceed, and the harvesting of timber, grasses and other natural resources can be accomplished. Land boundaries must be known before soil conservation and range improvement projects can be carried forward. The development of reclamation projects is also dependent upon an adequate system of land boundary (cadastral) surveys.

The cadastral survey program is integrated and timed with other related and associated regional and major basin programs. The plan has been formulated after considering the needs of the BLM divisions of Range Management, Lands, Resource Development, Minerals, and other cooperating Government agencies.

During the past year 835,470 acres of lands for resource development were surveyed or resurveyed in region III; 281,140 in Nebraska, 210,560 in South Dakota, 141,600 in Wyoming, 137,530 in Montana, 48,000 in Kansas, and 16,640 in North Dakota.

One of the primary factors concerned with future programing of cadastral surveys in the States of region III is the increased activities in the development of natural resources. The interest in the development of oil is particularly noticeable at this time and all evidence points to an ever-expanding field of operation. The exploration for oil ties in directly with cadastral surveys, since property values increase tremendously in the areas affected by this development and consequently land boundaries are of primary interest. This fact has become more apparent since the discovery of oil deposits in the Williston Basin in North Dakota.

The survey of small tracts for homes, business, and recreational sites, the investigation of [illegible] surveyed islands, and the survey of newly for[illegible] accretion lands along the rivers is a function [illegible] the Cadastral Engineering Division . . . when such lands are found to belong to the Government. The survey of islands and newly formed lands involves the critical examination of a large part of the accreted lands, and river changes along the Missouri River from Yankton, S. Dak., to the Montana-North Dakota line.

In this region, the boundaries of which do not exactly coincide with the boundaries of the Missouri River Basin, there have been a total of 339,224,597 acres covered by the rectangular system of cadastral surveys. Of this amount, i[illegible] is estimated approximately 13,000,000 acres ar[illegible] in need of resurvey. These resurveys are necessary because the original surveys were made many years ago when corner monuments were constructed of wood or other perishable material, and many of these have become lost or obliterated.

Since the initiation of the extensive cadastral survey program in 1946, 7,461,950 acres have been surveyed or resurveyed in the Missouri River Basin.

The orderly extension of the cadastral surveys and resurveys to cover areas not now adequately provided with land-boundary markers is essential to the development of the natural resources of the country, and thus contributes materiall[illegible] to our national economy. The efforts of the D[illegible] vision of Cadastral Engineering have been [illegible] rected toward an endeavor that will aid in t[illegible] accomplishment.

ALASKA'S PUBLIC SALE ACT

by **LOWELL M. PUCKETT,** ***Regional Administrator,*** **Region VII**

There are a number of public-land laws which apply to Alaska only, but one comparative newcomer to the group, the Alaska Public Sale Act, deserves particular attention because it has several unique features that are not parts of any other statute.

For a number of years prior to the passage of this law on August 30, 1949, there was an evident need in Alaska for a law which would permit the purchase of substantial acreages of land for business purposes. Suggestions for provisions of a bill came from within the Alaska Field Committee, the Governor's office, BLM personnel in Alaska, bureau and departmental officials in Washington and others.

The act which was passed permits the provisional sale of as much as 160 acres of surveyed or unsurveyed land at public auction to an individual, corporation, association or partnership. The proviso that the successful bidder must file a satisfactory plan of development and then substantially complete this plan within 3 years or forfeit his money and the land, is strong medicine and is designed to separate the bona fide businessmen from the pure speculators.

A certificate of purchase is issued soon after the sale and upon completion of the project, if it is within 3 years, a patent is issued. In the meantime, if the land is not surveyed, our crews must complete a survey.

At one time there was some skepticism as to whether this act would be workable and used in Alaska. We think there are a few "bugs" in it but we have held 10 sales beginning in June 1951, and each time have had spirited bidding.

BLM is using this law to further planned development, as in about 75 percent of the cases, the sales have been held following selection by the Bureau rather than based upon application. As an example, an industrial area has been added to Anchorage. The east addition to the townsite of Anchorage had been surveyed many years ago but trees and brush flourished, providing a protection to the watershed of Ship Creek, the city's water supply. After the intake had been relocated, we

(Continued on page 14)

SITES. Industry in Alaska is finding sites for new establishments on public lands. In the foreground, a bus line and a large business are located on land recently acquired from the Government under the Public Sales Act.

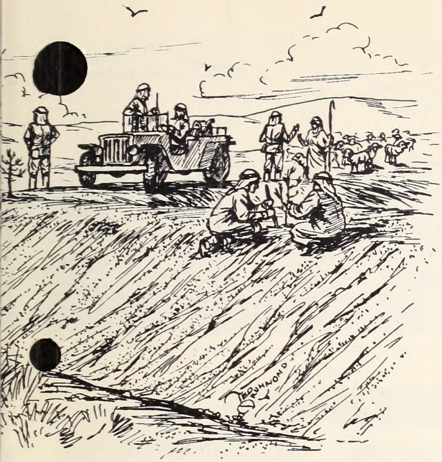
SPREADER. Earthen dams and spreader dikes catch and hold runoff water, providing water for forage grasses for many months.

WATERSPREADING IN JORDAN

BLM TECHNICIANS HELP ARABS DEVELOP THEIR GRAZING LANDS

OFFICIALS. American and Jordan officials discuss plans.

BEDOUINS. Arabs admire lush



Lush green grass growing out of season in the desert is the sight that has stirred the entire Middle East. Arab sheiks make "pilgrimages" to see for themselves the amazing thing that has come to pass in Jordan. In that Arab state, Bureau of Land Management technicians in charge of grazing land developments for the United States Technical Cooperation Mission to Jordan are demonstrating the waterspreading techniques that are responsible for the growing of grass on former arid half-barren lands.

BLM's Albin D. Molohon, then regional administrator at Billings, Mont., visited Jordan a year ago last spring to survey the situation and to advise officials of that country on specific problems of range management, stock-water development, waterspreading and reseeding programs. Two months later he was joined by Norman H. French, BLM range conservationist, who had extensive experience in range-water development work in Montana and Wyoming and who was given the responsibility of carrying on the work begun by Mr. Molohon.

In Jordan, only two or three cloudbursts a year water the desert, and this water quickly runs off the land and down the wadies. For a brief period after these rains, grass will grow. This grass is short lived for the fast-moving water does not penetrate more than a few inches.

Waterspreading, as developed in Wyoming and Montana, for example, and brought to Jordan by Molohon and French, consists of damming the wadi and diverting the runoff from storms into L-shaped dikes which form a system of baffle dams. Water spreads out behind the first 4-foot-high dike, eddies around the ends, overflows to the next level, floods to the next dike and repeats the process throughout the system. Thus water is kept on the land for days and sinks many feet into the ground where it is "stored" and is tapped by long-rooted grasses.

Desert vegetation of Jordan is so sparse that every blade and leaf is cropped by hungry camels, goats and sheep of the nomadic tribesmen. To protect the verdant forage on the Bureau's grazing projects, Arab legionnaires maintain a constant patrol.

At first skeptical, the nomadic Bedouins expected the new grass to grow an inch or two

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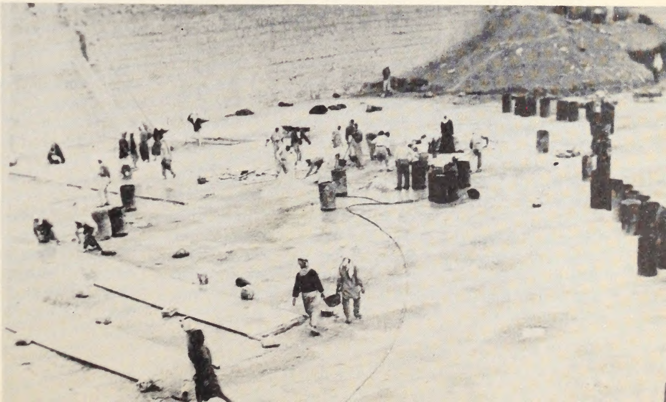
ss growing behind waterspreader.

RESERVOIR. The floor of a Roman reservoir gets repairs.



active acres

ACTIVITY MAP

The BLM has many activities which, collectively, comprise a big job in Idaho. Its work in making available for use, managing, protecting, and improving the natural resources of the public domain is of vital importance to the people of the State.

On the 12,800,000 acres of land administered by the BLM in Idaho in 1952 the grazing use was as follows: 266,000 head of cattle, 1,064,000 sheep, 9,000 horses and an estimated 76,000 big game animals. Receipts from BLM lands for fiscal year 1952 totaled $474,000 and included: Grazing fees, $183,000; mineral, including gas and oil and phosphate, $109,000; sale of timber and forestry products, $121,000.

To date the BLM in Idaho has reseeded 164,000 acres of range, constructed 578 reservoirs for watering livestock and big game animals, dug 28 wells, developed 354 springs, built 1,820 miles of truck roads, 595 miles of stock fence, 221 miles of stock trails, 53 corrals, 20 bridges and 91 cattle guards.

To protect the BLM lands from fire, each of the five grazing districts in Idaho has developed a fire organization. Five lookouts are located on strategic points in south Idaho for detection of and reporting fires. A radio network connects the lookouts with district headquarters and mobile units in the field. Cooperation with private individuals, the State, and county and Federal agencies serves to increase the effectiveness of the protection organizations. The per diem guard system composed of ranchers and farmers serves as the first line of defense and is very effective in keeping burned areas to a minimum. In 1952, 290 range fires burned 92,396 acres.

In addition to the five district range managers serving Idaho, there is also a land office at Boise, and two forestry offices, Spokane, Wash., and Bend, Oreg. The district range managers are located at Boise, Burley, Idaho Falls, Salmon, and Shoshone.

LAND RECORDS

Very few people, even though familiar with other aspects of public-domain management, appreciate the magnitude of the public-land record system for which the Bureau of Land Management and the National Archives are responsible.

It has been estimated that there are 6,000 volumes of cadastral survey notes and 100,000 survey plats covering an area of about 1,300,000,000 acres. In its vast land-disposal program, the United States has issued over 6,500,000 patents to settlers on Government land and to other[illegible] Record copies of these patents are kept in 11,55[illegible] volumes. Over 4,000 tract books are maintained showing 25,000,000 entries relating to the status of all public lands, those which have been patented (deeded to individuals) as well as those still on the Government rolls.

In summary, these records contain the original title evidence to approximately 1,000,000,000 acres of public domain now in private hands, as well as title and status evidence on 400,000,000 acres of land remaining in the public domain. Also covered are 50,000,000 acres of patented land on which the United States retains the minerals.

This great volume of public-land records is constantly growing, as the demand for resources of the public domain increases. The United States land records are not dead archives, but are part of a public land system which is actively operating as a very important part of our national economy. The title to over 50 percent of the land area of the 11 Western States is held by the Federal Government. About 100,000,000 acres of public land remains to be surveyed in the western United States. Of the 365,000,000 acres in Alaska, less than 1 percent has been surveyed.

At each stage in the development of these resources, public records will accumulate, taking their place in a system which was begun 150 years ago. It has long been the policy of the Unite[illegible]

States to encourage private acquisition and development of the public domain. This policy continues, and each year substantial acreages of the public domain pass into private hands for agriculture and other surface uses, or to be developed for mineral values. In addition to outright disposal of public land, large areas of the public domain are leased to surface users or for oil and gas and other mineral development. Land assigned to various public programs is held by the United States and managed in the public interest.

ASTRONOMY

As a public service, cadastral engineers attached to the BLM Land and Survey Office in Denver recently established azimuth settings for a new radio station at Littleton, Colo., and determined the lengths of shadows at various hours for various times of the year of a proposed $15,000,000 skyscraper being designed to occupy the block at the northeast corner of Broadway and Colfax Avenues.

WITHDRAWALS

Secretary of the Interior Douglas McKay has approved a directive to the heads of all Department bureaus and offices to expedite a review of all public lands now withdrawn or reserved for departmental activities in the Territory of Alaska.

While the Department is responsible for the administration of most of the public lands in Alaska—approximately 310 million acres—reservations for its programs and activities are only a part of the acreage withdrawn for all governmental purposes.

The Department intends to establish a standard in the use of public lands which will benefit the public and materially assist in the development of Alaska. Lands which are not further required, or areas which are excessive in size will be returned to open public land status and made available for sale, lease, or disposal under appropriate public-land laws.

Last October, the Bureau of Land Management published an Alaska Withdrawal Atlas in an effort to facilitate restoration wherever possible to the public domain those lands now held in reservation.

ALASKA

Harold J. Lutz of Yale University recently completed a 4-year study of the ecological effects of forest fires in the interior of Alaska. This will be published as Station Paper No. 1, by the Alaska Forest Research Center at Juneau. The BLM cooperated with the research center by assisting Mr. Lutz during his stay in Alaska.

In view of the fact that the BLM is responsible for the management and protection from fire of 225 million acres in Alaska, this report is of particular importance to the Bureau. R. F. Taylor, forester in charge of the Alaska Forest Research Center, made the following summary statement in the foreword.

"Two things stand out in the Lutz report: (1) the interior forests are *not* all stunted, slow-growing arctic stands. Large areas of forest in the interior have as fast a growth rate as stands in northern Maine and southern Ontario where great industries depend on them; (2) fires do a lot more damage than just destroying the timber. They damage the beauty of the landscape for tourists, they create a smoke nuisance that makes flying dangerous and they destroy wildlife habitats, killing many of the fur bearers. They are apt to reduce the water supply for mining and when repeated on the same areas, turn a forest into permanent grass and brush."

CONFERENCE

The Fifth Annual BLM Training Conference will be held this year at the summer camp of the Utah State Agricultural College near Logan, Utah, from August 20 to September 3. In former years, the conference met at the Squaw Butte, Oregon, range and livestock experiment station.

The objectives of the training conference are: 1, to give the conferees a clear concept of BLM policies, objectives, and responsibilities; 2, to get a better idea of the BLM organizational structure, its functions, operations, and relationships; 3, to obtain a better working knowledge of area administration and multiple-use management; 4, to develop better working relationships through personal contact and fellowship between employees at all functions and levels of the Bureau; 5, to stimulate the participants by way of exchanging ideas with persons from other governmental agencies, educational institutions, and the general public; 6, to improve the Bureau's service to the public through discussions on methods for better management.

Personnel Officer Edgar B. Carroll will be the general chairman of the conference and is responsible for the direction of the program. He will designate conferees to handle various assignments.

Each of the 40 conferees will prepare an assigned topic for presentation and will participate actively in the discussions.

Field trips, illustrated discussions, and movies will also be used and two or three guest speakers from outside the Bureau will be engaged. The facilities of the camp are excellent for training conference purposes.

RESPONSIBILITIES

(Continued from page 3)

and diverse problems included under a single activity. An example of this is the range management work which covers not only land use in the form of grazing by livestock and wildlife but also watershed development, recreational use, and the very important soil and moisture conservation program that assures continued use of the rangelands.

The three other basic activities of the Bureau, cadastral engineering, minerals and forestry, are equally complex and important. Many acres of our public lands must be resurveyed. Original surveys are still to be made on public lands in a number of Western States. Such surveys are prerequisite to land disposal. Without these cadastral surveys, we cannot transfer Federal lands into private and State ownership, and without proper surveys, we cannot set up management and disposal programs in the major fields of minerals and forestry.

We plan a careful review of our forestry and mineral programs as well as our range management and cadastral engineering activities from the practical management viewpoint—a review which will cover not only the financial worth of valuable products of the public lands but aid in establishing protective patterns to insure timber, minerals, and rangelands for future generations of Americans.

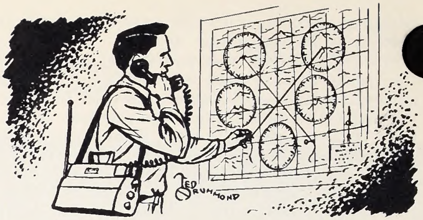
Direction of a job of these dimensions requires the cooperative assistance and best efforts of everyone. Mindful of our public trust, we shall push forward together toward the accomplishment of our goals in the Nation's interest.

Efficiency Corner

VHF RADIO IN FIRE CONTROL

Reduction of lapse time from detection of a fire to the time suppression forces arrive at the scene of action is most important to fire control organization. This is especially true concerning range fires which occur in ripe cheatgrass. Fire in a field of cheatgrass in midsummer spreads with fantastic speed.

In 1951, BLM fire personnel began to make plans for the installation of VHF (very high frequency) radio in the grazing districts of Idaho and east Oregon where heavy cheatgrass is quite common. VHF radio transmits on line of sight and is free of interference such as caused by midafternoon electrical storms and other static common to AM radio.



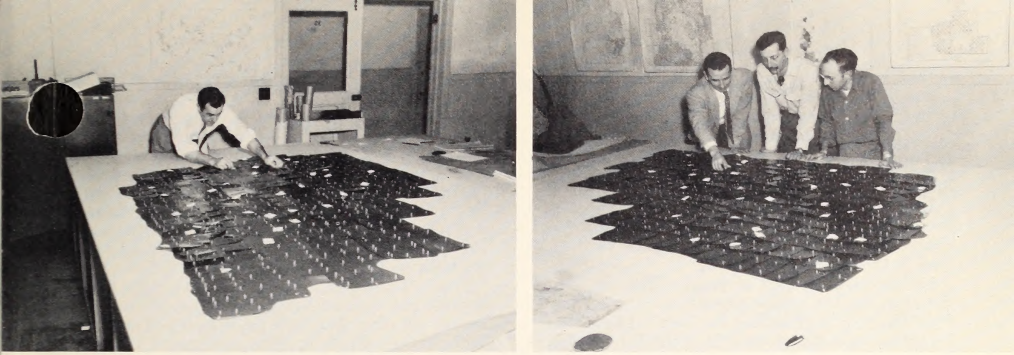
Base stations will be located at Boise, Shoshone, Burley, Idaho Falls and Salmon, Idaho, Vale, Baker, Burns, Lakeview and Prineville, Oreg., and in lookout stations located at strategic points. To reach field crews equipped with mobile sets operating in areas behind mountain ranges or out of line of sight, automatic repeater on relay stations will be installed on Shaefer Butte north of Boise and Chinks Peak near Pocatello.

Funds for complete installation of this VHF network are not available but by midsummer the main stations at Boise, Shoshone, Burley and Vale, portable stations in all lookouts and repeater stations on Shaefer Butte and Chinks Peak, will be in operation—plus more than a dozen mobile sets in pickup trucks and other vehicles operating in the field.

Good communications from the Lookout to headquarters will facilitate rapid reporting of fires and the dispatching of crews to the fire. Of importance too is the use of a portable VHF radio in a scouting plane to direct suppression crews to the strategic points on a fire and to shift crews to the "hot spots" during the suppression action.

A similar network is presently being installed on the Arizona strip and a limited network is planned for two grazing districts in Nevada and the Malta grazing district in Montana.

Radio-telephone, when more widely established, may be more efficient and will no doubt prove more economical than maintaining a Bureau-operated radio system. The BLM fire-control organization has radio-telephones installed in two vehicles operating in the Carson City, Nev., grazing district. Their range is 50 to 100 miles.



LAYDOWN. A "laydown" of aerial photos gives photogrammetrists a network of horizontal control from which to make forest type maps. Type mapping formerly required extensive and arduous work afoot.

FOREST INVENTORY

(Continued from page 4)

hundred mapped. Now this is accomplished with equal accuracy by sampling 1 acre. The forester selects at random a number of plots in the merchantable forest types as delineated on the photographs, locates them on the ground, takes a 1 percent sample and analyzes the volume estimate by statistical methods—a good illustration of how photogrammetric methods produce results with a fraction of the expenditure of time and effort previously required.

It must not be assumed that the airplane has replaced ground work; it has not and probably never will. The two techniques are complementary, and for some operations, for instance, cruising, aerial photography has not yet provided any substitute for the man on the ground. Timber being sold must still be cruised and marked so that trees can be properly log-graded, accurate deductions for defect made, and the mature and overmature trees designated. But the fact remains that aerial photography offers immense advantages and short cuts, and most foresters will agree that it represents one of the most significant advances in forest management which have been presented in the past decade.

WATERSPREADING

(Continued from page 9)

and then wither but the grass continued to grow for months, and was ultimately cut, baled and stored in probably the first such haying operation known to Jordan. Thus impressed by the success of waterspreading, the amazed sheiks studied the simple techniques to take back to their own tribal lands the art of making grass grow where none grew before.

Within the first year, completed waterspreading systems, increasing grass and forage production, affected approximately 2,000 acres in Jordan. Of this amount well over 1,000 acres have been seeded to introduced or native grasses. Three dams and 26 waterspreaders have been built. Trees have been planted on the waterspreading systems to increase their permanency.

On the basis of these early achievements, plans are now being made for additional waterspreaders and increased forage production that will achieve far greater results.

Another part of the Bureau's program of natural resource development in Jordan is the renovation of ancient Roman cisterns.

These cisterns are large, rectangular, rock-walled reservoirs—with an acre surface and 30 feet deep—that catch and hold runoff waters. With the windblown sand removed and the cisterns renovated, such reservoirs provide water for humans and stock for many months during dry spells.

Technical activities of these types being conducted by the Bureau's experts in Jordan have great value aside from the increased production of food and materials. The development and maintenance work in connection with these projects employs local labor, which is thereby trained and becomes skilled. Thus the people are left with the capacity to help themselves.

Of special interest to the Bureau's domestic personnel, the costs of the Bureau's international cooperation programs are paid from United States Government and foreign country appropriations specially provided for the purpose and they do not come out of funds established for domestic BLM activities, nor affect these funds in any way.

ALASKA

(Continued from page 7)

decided to sell the land under the Public Sale Act rather than the townsite law and see whether the former would really "take" in Alaska.

Eight tracts went easily at our first sale and brought a total of $35,625. This sale was such a success that we decided to sell some additional land in the same area.

Our second sale hit a snag. There is a provision in the law which permits mining claims to be filed on land classified for sale. The evening before our sale was to be held in the United States District courtroom, two men staked placer claims for gravel on all of the land we had advertised for sale. We held the sale anyway and later went into the United States district court and secured a temporary restraining order which prevented the claimants from doing any mining.

Successful bidders for the land covered by the mining claims were advised that they could get their money back or could sit tight, as we were going to try for a permanent injunction. Some withdrew, others decided to wait and see what would happen. Through the United States attorney, BLM's Regional Adjudicator Chester McNally presented the case and a permanent restraining order was issued. The court decided that, as the land was withdrawn from all forms of entry for townsite purposes, the mining claims were invalid.

The situation will be complicated if mining claims are filed on auctioned lands that haven't been withdrawn from entry. The posting of a $20,000 bond to protect the owner of the land from damage is provided by the regulations. It is expected that there will be few nuisance claims, such as claims for gravel which underlies much of the usable public lands in Alaska.

It was at the second sale that W. F. Meek, field examiner, who with the land office managers has handled all public land sales in Alaska to date, adopted a bidding system that saves much time. Each prospective bidder is designated by number before the sale begins. Thereafter, bids are by number and the clerk is able to record each bid with little difficulty.

Occasionally, only two people bid at a sale although others show up to watch the fun. A tract of land just outside the city limits of Anchorage was appraised at $8,000. Two businessmen appeared, and boosting their offers $25 to $100 at a clip, shoved the final sale price to $15,000.

Under the direction of Fred J. Weiler, regional chief, Division of Land Planning, industrial and commercial sites have been set up near Kenai, at Anchorage, and 12 to 17 miles north of that town, and at Portage. No lands have been sold in the Fairbanks area as yet, but some will be sold along the Richardson and Alaska Highways. To date about 145 acres have brought $116,000—a rate of $800 per acre.

The ratio of investment in improvements [illegible] original cost of the land is about 9 to 1 where substantial structures have been completed. In other words, $9 have been invested in improvements for each dollar paid for the land. Among the purchasers, the J. C. Pomeroy Co., contractors at Anchorage, has invested $180,000 in structures. The Alaska Sales & Service has invested $30,000 in a bulk oil plant at Portage.

This law has been in operation too briefly for us to make any well authenticated forecasts as to its impact on the development of the Territory. However, we expect it to become one of the most widely used Alaskan public-land laws in operation within another year or two.

The Crescent Wash

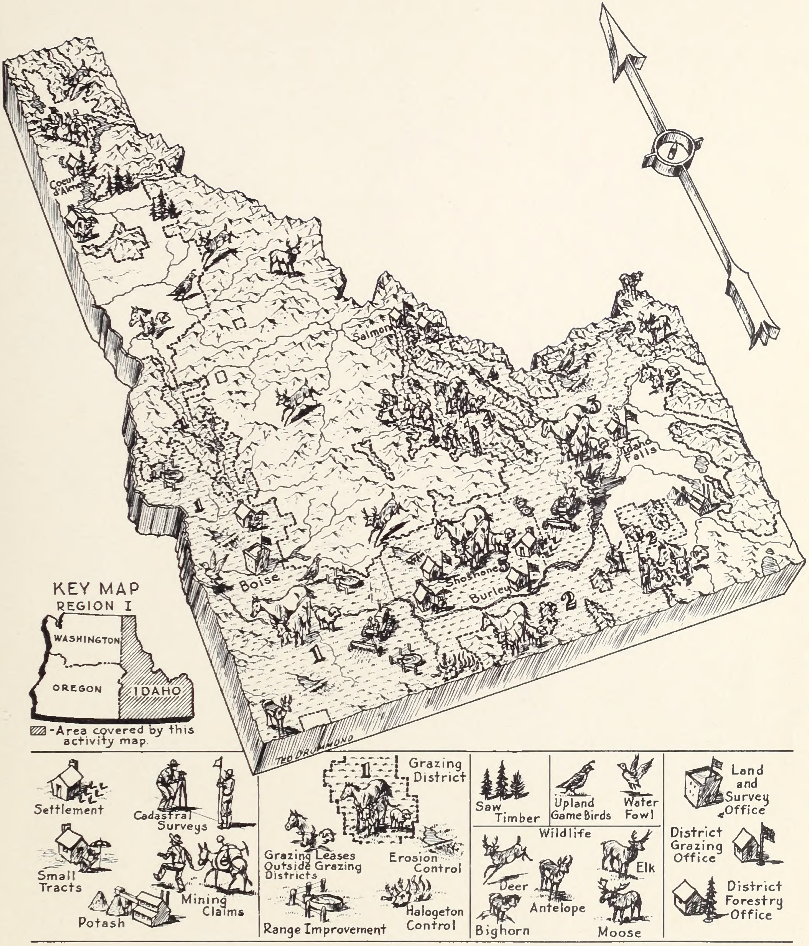
DETENTION DAM AND WATERSPREADER

The recently completed Crescent Wash detention dam and Ten-Mile waterspreading system in eastern Utah represents the Bureau's first major effort in employing these techniques as a means of controlling erosion in the central Colorado plateau. The decision to install the system was based on a small preliminary trial which showed definite indications that Mancos shale soils typical of this region would support good stands of grass if sufficient moisture is available.

The system consists of the Crescent Wash detention dam located near the mouth of Crescent Wash Canyon a short distance north of Crescent Junction on Highway U. S. 50. The dam is approximately 35 feet high and 880 feet long and contains approximately 85,000 cubic yards of selected earth fill. The dam contains an emergency overflow spillway that will pass 2,750 cubic feet per second which together with the discharge pipe totals 2,800 cubic feet per second.

The Ten-Mile Flat spreading area is located downstream from the dam and some distance south of Highway U. S. 50, and consists of 3,100 acres of spreading area completely enclosed within a new fence. Twenty-two miles of dikes have been constructed on the spreading area to control the movement of water and retain it upon the land. All of the dikes have been seeded to crested wheat. The hydrologic study indicates an average annual runoff of 380 acre-feet and a peak storm of 180 feet which is the flood capacity of Crescent Wash Dam. This waterspreading system will trap all of the sediments coming out of Crescent Wash and will conserve and make beneficial use of the water.

IDAHO LAND-USE AND ACTIVITY MAP



For comments on this map, please see page 10

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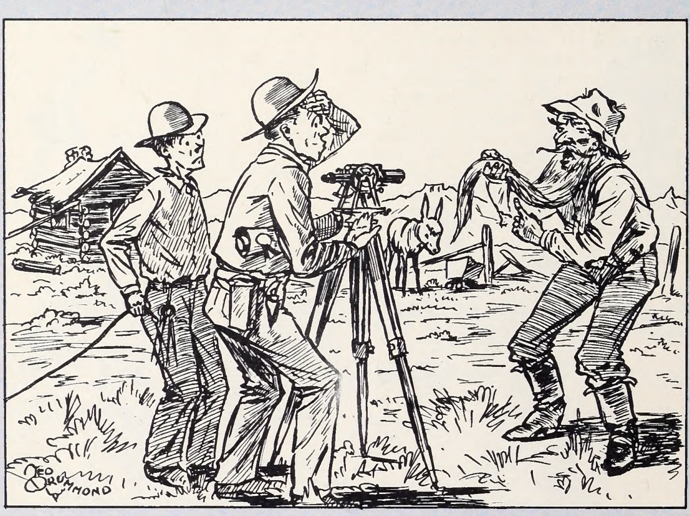

'Stablish the boundaries? Why, *I* 'stablished them when this was cheek fuzz!

The BLM cadastral engineers above don't plan to upset any valid claim to the land under color of title which the oldtimer established over 60 years ago when, in good faith, he first settled on the public land.

However, before title can pass to the gentleman who "squatted" on the land so long ago, the surveys must describe the tract and establish boundary markers on the ground. For no matter what the excuse or how unusual the occasion, no piece of public land can pass into private ownership until that land has been surveyed and identified on the plats and tract books of the Bureau of Land Management, Department of the Interior.

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